



A Half-Century of Development

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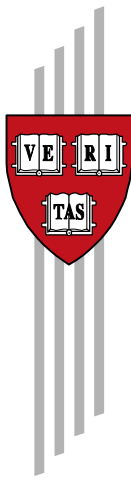
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A Half-Century of Development

Richard N. Cooper

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Abstract

Development as a global policy objective dates from the 1940s. Relative to expectations then, the world economy performed outstandingly well during the second half of the 20th century.

Worldwide growth in average per capita income exceeded two percent a year (historically unprecedented), many poor countries became rich, infant mortality declined, diets improved, longevity increased, diseases were contained if not vanquished. Poverty on the World Bank definition of \$1 a day (in 1985\$) declined dramatically, and the number of persons in poverty was halved despite a more than doubling of the world population. Variations occurred over time and space, with rapid growth being concentrated in Europe and Japan early in the period, then moving to east Asia, southeast Asia, and south Asia. Growth in the 1950s and especially the 1960s exceeded that in later decades. Examples of high growth could be found in every continent, but on average sub-Saharan Africa fared much less well than other regions.

Declines in national per capita income were rare, and concentrated in Africa. Civil disorder was a common but not the universal cause of low growth. Median world income gained relative to the well-off, but both spurred ahead of the poorest.

World exports grew more rapidly than output, often leading the way. Many countries gradually shifted their exports from primary products to labor-intensive manufactured goods, and as development proceeded to more sophisticated manufactures and services. The fraction of the labor force devoted to agriculture declined significantly. One country after another achieved social stability, created the right incentives for effort and risk-taking, and engaged constructively with the world economy, which facilitated economic growth. Those that lagged failed to meet one or more of these conditions. Civil and political liberties also spread during this period, although less certainly and less securely. On the whole, it was a good half century for mankind. The substantial poverty and misery that still exists should not lead to neglect or even denial of these achievements.

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Introduction

Economic development is a relatively new objective for economic policy, dating from the 1940s. Economists had of course been concerned with the causes and consequences of development since Adam Smith and earlier, and a number of countries in the 19th century, attempting to emulate Britain, strove for industrialization, what contemporaries considered development. Referring to Britain's overseas colonies on becoming Britain's Colonial Secretary in 1895, Joseph Chamberlain pronounced that "it is the duty of the landlord to develop the estate." (quoted in Kapur, Lewis, and Webb, p.95). But development as a global objective for improving economic well-being of ordinary people, reflecting Franklin Roosevelt's stated desire in 1941 to extend "freedom from want" throughout the world, was first embodied in the United Nations Charter, which called for "economic and social progress and development." It is reflected in the formal name of the World Bank, the International Bank for Reconstruction *and Development* (IBRD), put there at American insistence over initial British reservations (see K LW, pp.57-62). It is necessary to recall here, in view of some revisionist history, that this was done in 1943, at the height of the Second World War and well before the emergence of the Cold War, which is usually dated from 1946-48.

The initial loans of the IBRD were overwhelmingly for reconstruction from the devastation of the Second World War, but a few were also made to Latin American countries, and in 1950 it made its first loan to India. Reconstruction proved too great a task for the IBRD alone, which was soon overtaken in magnitude by the U.S.-financed Marshall Plan for Europe, plus aid to Japan and China. And in his presidential inaugural address in 1949 Harry Truman

announced his "Point Four" program, described as "the first program designed with a truly third world objective" (KLW, p.151), which laid the basis for America's post-Marshall Plan foreign assistance programs.

Expectations

When people embraced economic development as a desirable objective of postwar economic policy in the late 1940s, what exactly did they have in mind, and what were their expectations? It turns out to be difficult to answer these questions in quantitative terms.

"Development" was not precisely defined, but it was taken to mean improved economic opportunity by increasing production of goods and services in a lasting way, through capital formation (e.g. the provision of infrastructure, the early post-reconstruction emphasis of the IBRD) or through improved productivity. In short, it was associated with economic growth. In particular, it did not include simple income transfers from one country to another; somehow the recipient country's productive capacity should be increased. It was assumed, however, that economic growth would improve nutrition, reduce mortality and morbidity, increase longevity, and generally increase living standards, as has indeed generally proven to be the case.

It is worth recalling that while gross domestic product (GDP) these days has entered the lexicon of the man-in-the-street, national accounts were invented only in the 1930s and were still a relatively new idea beyond specialists in the late 1940s. Quantitative historical work, mainly on the 1920s and 1930s, on aggregate economic output, hence economic growth, was still in its infancy. People felt they could identify some useful things that needed to be done without

attempting to quantify them.

In *The Theory of Economic Development* (published in 1955), W. A. Lewis, who later won a Nobel prize for his work on economic development, makes only contingent quantitative statements, but they can be taken to reflect his expectations. He states that "raising total output by 2 per cent per annum [in a country whose population is growing annually at 1.5 percent] is no mean feat. It requires considerable expenditure on education and other public services, a doubling of current capital formation, and many changes in beliefs and institutions." Three percent [in a country whose population is growing at 2 - 2.5 percent a year] would be even more difficult. "There is no sign of the less developed countries this side of the Iron Curtain beginning to adopt the sort of heroic measures which a 2 to 3 per cent per annum increase in output would demand." (pp.314-315) Lewis recognizes, however, that Japan doubled its per capita output in 25 years (implying a growth rate of 2.8 percent a year), so the possibilities are there for the rest of Asia and Africa (p.316). The main requirement, Lewis believed, was to double the rate of capital formation, along with the production of skills required to do that successfully.

I have found only three relevant quantitative projections to indicate at least some specialists' expectations about future growth: Colin Clark (1942), who on a base of the late 1930s makes projections for the world economy and its major components to 1960; the Paley Commission, which made projections in 1951 to 1975 for the U.S. economy, and implicitly for the world; and Woytinsky and Woytinsky (1953), who make quantitative projections of world population and energy use to the year 2000.

Australian economist and statistician Colin Clark was one of the earliest users of national

accounts and other aggregate national statistics to generalize about the process of economic growth in his *Conditions of Economic Progress* (revised and most quoted edition 1951, but first published in 1940). Clark also wrote a much less well known sequel, *The Economics of 1960*, published in 1942 in the middle of the Second World War, in which he attempts to project growth in population, labor force, productivity, and output for 30-35 countries or country groups from a baseline of 1935-1938 to 1960. He is so interested in the details that he does not even publish world totals, but his projections imply world economic growth (national income measured in "international units" equivalent to U.S. dollars of 1925-1934 — a precursor to purchasing power parity calculations) of 3.3 percent a year, or 2.2 percent per capita. Interestingly, this was well in excess of pre-war growth, and of what was probably the consensus view among economists at the time, but Clark assumed significant further recovery from the Depression of the 1930s, especially in the United States, the world's largest national economy. He lacks data for Africa and much of Western Asia, but it is interesting that in his projections only nine countries — Finland, Portugal, Italy, the Baltic states, Poland, Czechoslovakia, Hungary, USSR, and Japan — grow more rapidly than the USA in per worker income. Of course, all these countries were much poorer than the United States, but so were most other countries; China was the poorest among his countries, with about half the per capita income of India by 1960, which in turn had less than half the per capita income of the countries listed above.

Clark estimates both the capital requirements for his projected growth and the likely savings, and concludes that a shortage of savings might postpone his 1960 levels of output to

1966, thus lowering the aggregate growth rate to 2.6 percent a year and the annual growth in per capita output to 1.5 percent.

In fact, the world economy excluding the USSR and eastern European countries grew by 3.6 percent, 1938-1961, 2.0 percent per capita, higher in the postwar period (UN, 1963, p.156). Maddison (2001) puts annual average GDP growth at 4.7 percent 1950-1960, 2.8 percent per capita, nearly double Clark's more probable estimate. Concerned about the sharp rise in materials prices after the outbreak of the Korean War, U.S. President Harry Truman appointed a "materials policy commission" to examine future demand for the United States, and for the world, of natural resources, out to the mid-1970s (Paley Commission, 1952). This commission projected annual growth of the U.S. economy at 2.8 percent from 1950 to 1975, and population growth at 1.0 percent. The outcome for both was significantly higher, 3.6 percent for GNP and 1.4 percent for population, while at the same time the consumption of most natural materials was over-estimated, due to under-estimation of materials-conserving technical change (for an analysis, see Cooper, 1975). More pertinent here, the Commission significantly *under*-estimated materials demand in the world; given its over-estimation for the United States, this implied a view of prospective world economic growth considerably lower than what actually occurred.

In a massive study of the world economy in the early 1950s Woytinsky and Woytinsky (1953, W&W hereafter) make projections to the year 2000 of world population, which they projected to reach 3.25 billion in 2000, up from 2.4 billion in 1950 (an average growth of 0.61 percent a year)(p.260); and of world primary energy use, which they project "hypothetically" to be 6.0 billion metric tons of coal equivalent (btce) in 2000, up from 2.9 btce in 1950, an average

growth of 1.41 percent a year.¹(p.979-983)

W&W do not project gross world product (GWP) or any of its near equivalents, but their energy projection gives a rough idea of what they would have expected GWP growth to be over this period, had they projected it. Energy intensity — the amount of primary energy per unit of real output — typically rises in early stages of development (as agriculture is mechanized and manufacturing grows in relative importance), plateaus, and then declines as manufacturing and agriculture recede in relative importance (see Smil, 2003, pp.157-161). In the United States, for instance, energy intensity rose sharply after 1880, peaked in the 1920s, declined to 1950, leveled off for two decades as automobiles and household appliances became items of mass consumption, then resumed its decline in the 1970s. Analogous patterns exist for other rich countries. Thus the relationship of energy to GWP growth depends on the stage of development for each country, and for the world on the relative importance and growth of poor as opposed to rich countries. A very rough guide would be that overall primary energy use increases at the same rate as GDP. On this assumption, W&W implicitly assumed that GWP would grow about 1.4 percent over the coming half century, which when combined with their assumed population growth of 0.6 percent a year implies an increase in world per capita income of 0.8 percent a year, modestly above Lewis' pessimistic expectation of 0.5 percent.

Outcome

In fact, world fossil fuel plus primary electricity consumption grew by about 3.6 percent a year, from 60 EJ in 1950 to 355 EJ in 2000 (calculated from Smil, 2003, p.6), marginally

below Maddison's GWP growth of 3.9 percent a year, of which 1.9 percent was population and 2.1 percent was output per person.

By the expectations of Lewis, Clark, and W&W, then, the increases both in population and in output per capita turned out to be significantly higher than contemporaries expected in the late 1940s. When we allow for the fact that infant mortality declined, longevity increased, nutrition improved, and literacy increased (see Table 1, and Thomas et al., 2000), we can conclude that the actual performance of the world economy over the past half century has been nothing short of spectacular relative to expectations at the beginning of the period.

Indeed, in the long stream of history, three features of the second half of the 20th century stand out: rapid economic growth; the sharp increase in population, from 2.5 billion in 1950 to over 6 billion at the end of the century; and extensive inflation, with the U.S. GDP deflator increasing by a factor of 6, or 3.7 percent a year. The increase in population was made possible by improvements in material well-being, and in turn contributed to growth insofar as productive lives were both more numerous and longer; it remains an open question to what extent the inflation, at least at modest rates, may also have contributed to growth.

Of course, the spectacular success was not spread uniformly, either over time or across countries. World per capita income, from Maddison (2001,2002), grew by 2.8 percent a year in the 1950s, rose to 3.0 percent in the 1960s, fell to 1.9 percent in the 1970s, and fell further to 1.3 percent in the 1980s, and rose to 1.5 percent in the 1990s (to 2001). See Table 2. Thus while early performance far outshone early expectations, expectations presumably get revised on the basis of experience, and against the experience of the 1950s and 1960s the last three decades

have been disappointing. Indeed, in the late 1960s Herman Kahn and Anthony Wiener projected American per capita income to grow nearly threefold (3.0 percent a year) from 1965 to 2000. (Kahn and Wiener, 1967; quoted in D. Bell, 1999, p.461).

There were also regional differences. The richest economy, the U.S.A, saw per capita income grow by 2.2 percent a year over the half century. Western Europe grew more rapidly, at 2.7 percent, while Asia grew more rapidly still, at 3.4 percent from a much lower base (Table 2). However, Latin America grew "only" at 1.7 percent a year, while Africa produced only 1.0 percent — high by historical standards, but low by the standards we have learned is possible, and some have come to expect. Moreover, during the period 1990-2001 per capita income in Africa grew at only 0.2 percent, and Latin America 1.3 percent a year (calculations from Maddison, 2002).²

Measurement Issues

We routinely use long-term growth rates as though they are facts, and as though they represent reasonably good measures of improvements in material well-being. In truth, they are problematic on both counts, and represent only rough indicators — perhaps the best we have, but rough nonetheless. Three points need to be stressed. First, as environmentalists correctly point out, GDP is a measure of gross current output, and does not deduct either for any deterioration in the environment (air and water quality) nor for the depletion of easily accessible resources such as high-quality copper ore or hardwood forest. Allowance for such environmental deterioration might take away the recent modest gains in African per capita

income, for instance.

Second, measuring output does not make allowance for changes in the real purchasing power of a country's output, that is for changes in its terms of trade. It is conceivable that output per capita could rise yet real purchasing power fall, if terms of trade have deteriorated enough (called immiserizing growth when such deterioration has been brought about by the growth in output). In fact, this qualification is probably most important for the oil-exporting countries, who experienced a large improvement in their terms of trade between 1950 and 2000, enough to convert stagnation or even declines in GDP per capita, as in Venezuela and Kuwait, into considerable improvements in living standards. For most countries, however, measured changes in the terms of trade are not sufficient to qualify greatly the changes in per capita output. The terms of trade of non-oil developing countries taken as a group, while showing some variation over time, worsened negligibly, by only 3.7 percent between 1964, the first year for which such data are available, and 2000 (calculated from IFS). One reason perhaps for the modest deterioration in terms of trade is that during this period of time the export reliance of developing countries on primary products declined significantly, such that by the early 1990s more than half of their exports were manufactured goods. Oil prices in real terms, in contrast, rose by 3.6 times, averaging 3.5 percent *a year*, with ups and downs, over the same period, increasing income relative to output significantly in those countries where oil is a large fraction of exports and GDP.

Third, GDP is composed of thousands of individual products and services, which grow at quite different rates, or indeed even decline while others are growing. GDP growth is a weighted

average of these disparate growth rates, and the appropriate weights are likely to change over time, perhaps substantially. As an example, consider a simple economy with only two sectors, agriculture (A) and manufacturing (M). Suppose that A does not grow at all, and M grows uniformly at 10 percent a year. What is the economy's overall growth rate? If manufacturing accounts for 20 percent of national expenditure initially, we can say that GDP grows at 2 percent a year ($= .8\underline{a} + .2\underline{m}$), where \underline{a} and \underline{m} are the growth rates of the respective sectors. But after 5 years M will make up 29 percent of expenditures (assuming the economy is closed), and after 10 years 39 percent. Thus if we use expenditure weights from the fifth year rather than the initial year, GDP growth will be 2.9 percent a year; weights from the tenth year will yield a growth rate of 3.9 percent — nearly double the first calculated growth rate!

How is this index number problem solved in practice? Usually by rebasing every five years or so, and then linking the five-year fixed base rates to create a longer time series. Indeed, the United States in the late 1990s adopted a chain-weighted measure of GDP growth, meaning that the weights change every year. For growing economies the weights at the end of half a century are very different from the weights at its beginning. Moreover, the weights at any moment of time may be heavily influenced by policy, especially restrictions on imports which raise significantly the domestic prices of the protected goods. Thus in the illustration above suppose import protection raises M prices to the point at which initially they account for 30 percent of expenditures. Then the recorded growth rate with initial weights will be 3 percent rather than the 2 percent reported above, and weights chosen five years later will lead to a recorded growth rate of 3.8 percent at domestic prices, rather than the 2.9 percent at world

prices. Of course, protection of the slow-growing sector will have the opposite effect, reducing the measured growth rate.

The question of weights gains in importance the longer the period being examined, and the higher the growth rate. It is also of great importance in making cross-country comparisons of levels of GDP or growth rates. Maddison (2001, 2002), whose data are used here, undertakes a major effort to achieve cross-country comparisons of levels as well as of growth rates in per capita GDP. He does this by using a particular variant of purchasing power parity (ppp) comparisons of per capita GDP for 1990, expanding this to GDP by multiplying by population in that year, and then extending the GDP so calculated backward to 1950 (and earlier) and forward to 2001 using national growth rates, sometimes as standardized by international organizations (except for China, where he revises them significantly downward).³ Regional and world totals are then achieved for any year simply by summing the national figures for that year; per capita GDP measured in 1990 international dollars is achieved for any year by dividing the totals by population. Regional and world growth rates in effect weight the national growth rates by 1990 national GDP calculated in 1990 international dollars, i.e. at a variant of ppp, which for example gives China roughly the same weight as Japan, even though at market exchange rates Japan's GDP was over seven times that of China in 1990. Different weights would produce somewhat different regional and world growth rates for, as noted above, countries grew at very different rates during the period, and therefore (for example), weights drawn from early in the period would have produced lower reported aggregate growth rates.

There is another potential problem with the Maddison figures. Since he compares

countries' GDPs calculated at international prices of 1990, strictly speaking the national growth rates should also be calculated at international prices for full comparability. Apart from the tremendous amount of work involved, it would yield figures which would be hard to interpret, again because of the weights. Maddison's figures, like all ppp calculations, must choose weights for the individual prices that are being compared across countries. Expenditure weights are usually used, but these differ from country to country, especially between rich and poor countries, the latter for instance giving much greater weight to food in total expenditures than do the former. Convention is to take a geometric average of both countries' expenditure weights in doing bilateral comparisons. But this is a purely arbitrary, if reasonable, convention. Yet it makes a great difference. For instance, ppp for China is based on some 200 price comparisons between the United States and China in 1986 by Ren (1997), using some strong (and dubious) assumptions to make the goods and services comparable, especially with respect to quality. using Chinese expenditure weights, which accord more weight to food and less to housing, Chinese per capita income at U.S. prices was \$571; using us expenditure weights it was \$1818, over three times larger — quite a difference for numbers that purport to measure the same thing. The geometric average of these numbers would be \$1019. Maddison's figure for 1986 is \$1597, in 1990 prices (\$1395 in 1986 prices), after some adjustments he made to convert to his 1990 international dollars and to his re-estimation of China's GDP.

For comparing standards of living across countries, some version of ppp exchange rates for conversion of GDP in national currency is necessary. If we focus on world demand, however, market exchange rates need to be used, since they measure the ability of nationals to

earn income or buy products or investments in the world market. GDP in "purchasing power" terms is a meaningless entity, except as an intermediate step to living standards.⁴

Convergence?

A question of general interest is whether, during this half century, countries have converged in their standards of living, evidence of the "catch-up" hypothesis whereby those countries that were initially far from the technological frontier and from best economic practice could in principle grow more rapidly than those closer to those frontiers. An extensive econometric literature has developed on this topic, essentially testing whether countries that were relatively poor in 1960 grew more rapidly than those which were relatively rich. This is not the place to review that literature, except to note that the general finding is one of "conditional convergence," that is, initially poor countries grew more rapidly than rich countries, conditional on a number of other factors, such as life expectancy (as a proxy for general health) or educational attainment (see e.g., Barro, 1997).

But I would not have expected to see, over a period as short as 35 years (the rough time frame of these studies), convergence in the sense sought. Many human and indeed biological processes follow a logistics curve, which does imply ultimate convergence but only after initial divergence — and only if the most advanced parties stand still once they have made the adjustment. But the technological frontier, so far anyway, has been constantly expanding, so "best economic practice" is constantly changing — manifested concretely in the fact that real per capita income in the United States, the richest large country, continues to grow. Thus the

"convergence target" is not static, but is constantly moving. This poses severe challenges for any country to "catch-up," even though the potential for catch-up is present. Initially poor countries could still be expected to grow more rapidly, but the catch-up period might indeed be a very long one.

Figure 1 presents the distribution of national growth rates in per capita income 1950-1998 for 128 countries or groupings of small countries, calculated from Maddison (2001). Per capita income in the United States, initially the wealthiest country (at \$9561 in 1990 international \$), grew at 2.2 percent a year, which can be regarded as a benchmark. Many countries grew more rapidly than the U.S.A, but more grew more slowly. Growth in GDP would show more countries growing more rapidly than the U.S.A because of more rapid population growth, but our main concern here is with improvements in material well-being, proxied by growth in per capita output. The growth rates broadly reveal a bell shape, with growth concentrated in the 2.0-2.5 percent interval, and tapering away both below and above. Eighteen countries actually showed a decline in per capita income, although the sharpest declines were for Qatar and Kuwait, which as noted above experienced large increases in real income due to improvements in their terms of trade. If we leave aside the oil exporting countries, the declines are led by Cuba (-0.9 percent a year), Niger(-0.9), Djibouti (-0.7), Madagascar(-0.7), Haiti (-0.5), and Afghanistan (-0.5). Fourteen countries experienced some decline in per capita income, if we leave aside the oil exporters, nine of which were in sub-Saharan Africa. Most of these countries experienced considerable internal conflict, sometimes outright civil war.

At the other end of the scale, four economies recorded an extraordinary increase in per

capita income in excess of five percent a year over half a century: South Korea (6.0), Taiwan (5.9), Botswana (5.3), and Oman (5.3), all very poor in 1950. Indeed, Botswana was the world's poorest country in 1950, with a per capita income of \$349 (in 1990 international \$) as calculated by Maddison, followed by Tanzania, Burma, and the behemoth China. But per capita income growth for most countries is clustered in the intervals 1.0-3.0 percent.

While "a rising tide lifts all boats" is a nice metaphor, it is not an accurate characterization of most human affairs, which more commonly involve leaders and followers, innovators and imitators, with imitators demonstrating very mixed capabilities in following successfully, as well as occasionally altering the path significantly (and sometimes productively).

As noted above, growth rates declined in the later decades of the 20th century. The distribution of growth rates across regions also shifted. In the 1950s and 1960s it was mainly northern European countries that grew more rapidly than the United States; thereafter their relative growth slowed. By the 1970s the rapid growers shifted to southern Europe and to East Asia, starting with Japan, then to southeast Asia and more recently to India. A few high growers were spread more widely, including Israel and Palestine, Tunisia, and Saudi Arabia (to 1980) in the middle east, Mauritius and Swaziland in Africa. Puerto Rico holds the record in the Western Hemisphere, followed by Trinidad and Brazil (mainly to 1980). A host of other countries, such as Mexico, Egypt, Pakistan, Turkey, and many smaller countries, have made steady if less spectacular progress. Eastern Europe and the Soviet Union grew respectably, although at declining rates, in 1950-1980, but then experienced declining output for a period as their

economies were transformed from central planning and control to market-oriented, with a major transformation in the composition of output.

Thus on these figures, there has been both convergence (on the U.S.A, the benchmark) and divergence. Many countries, especially those in western Europe and east Asia, have reduced greatly the (geometric) gap in GDP per capita. We too often forget how poor some currently rich countries were fifty years ago. On Maddison's comparisons, Japan in 1949 had a lower per capita income than India did in 1998, and Greece, Spain, and Portugal were only modestly richer. South Korea had a per capita income equivalent to that of India in 1965, and only 24 percent higher than India in 1950.

On the other hand, many countries have fallen further behind than they were in 1950. Indeed, African countries, while poor in 1950, were on average nearly twice as rich as east and south Asian countries (excluding Japan). But their low average growth rates have seen them recede considerably, such that by 1998 their per capita income, while 60 percent higher than in 1950, was less than half that of the east and south Asian countries on the same comparison (Maddison, 2001, pp.305, 327). Haiti was 36 percent richer than South Korea in 1950; by 1998 South Korea was 16 *times* richer than Haiti.

Figure 2 records the distribution of national growth rates in per capita income, but weighted by population in 1975 rather than simply by number of countries. There it can be seen that again growth rates averaging between 2 and 2.5 percent per annum are the most common, but the distribution is trimodal (due mainly to China and the former Soviet Union), with the preponderance of growth taking place at rates higher than the modal interval.

Using countries as observations, weighting by population, the income of the median world citizen has risen significantly relative to the income of those at the 90th percentile. But those at the 20th percentile have fallen further behind both (Cooper, 2002, p.133-34). This calculation however is crude compared with those that allow for distribution of income within as well as between countries, as discussed below. (To compare the average income in the 20 poorest countries with that in the richest 20 countries, as is sometimes done, is of course deeply misleading, since both groups change in composition, substantially over long periods of time. As noted above, both Botswana and China were among the ten poorest countries in 1950, but neither would be included in that list today.)

It should be noted that recorded GDP growth rates probably understate the true potential growth in rich, especially European, countries, since higher incomes have permitted greater leisure in the form of shorter-work weeks and more paid holidays. In this respect Europeans have sensibly elected to take more leisure, which of course is not measured in GDP, than have Americans, who in turn have taken more leisure than Japanese, who reputedly often do not even take the paid vacations to which they are entitled. By the same token, recorded GDP growth rates probably overstate the true potential growth in poor countries, as many family activities, such as making clothing, get increasingly absorbed into the commercial economy, and hence add to recorded GDP, whereas they were not counted before (food self-sufficiency, in contrast, does in principle enter GDP, although how well that is done in practice is open to some doubt).

At a very fundamental level, development is moving people out of agriculture into socially more productive activities, as productivity in agriculture also increases. In the poorest

countries, near subsistence, over 80 percent of the labor force is engaged in agriculture (including fishing). In the richest countries, less than five percent is engaged in agriculture (2 percent in the United States), and sometimes even that low share produces a surplus for export. In this simple but fundamental dimension the past half century also experienced great change. Twenty to thirty percent of the (rising) labor force has moved out of agriculture between 1965 and 2000 in most developing countries for which data are available. For example, the share of the labor force in agriculture declined over this period from 84 to 63 percent in Bangladesh (a country of low growth), 49 to 21 percent in Brazil, 81 to 47 percent in China, 55 to 29 percent in Egypt, 71 to 43 percent in Indonesia, 50 to 18 percent in Mexico, 82 to 49 percent in Thailand, to illustrate with some large developing countries, and from 47 to 17 percent in Greece and 26 to 5 percent in Japan, to illustrate with some OECD countries. That paragon of growth, South Korea, reduced its share from 55 to 11 percent over the same period, even while strongly protecting agriculture late in the period.

Poverty

In a sense, the whole point of economic growth is to reduce poverty — to create opportunities for development of individual interests and talents which simply cannot operate when nutrition and health are poor, and when one's dominant pre-occupation is with providing sufficient food for oneself and family. Yet comparisons of "poverty" across countries, or even over time within countries, are fraught with both conceptual and practical difficulties. What exactly do we mean by "poverty," and how sensitive should it be to the general economic (and

social?) conditions of the society in which one lives? Having decided on a working definition, how do we measure it accurately?

In terms of international discourse, the conceptual problem has been "solved" by the suggestion by the World Bank in 1990 that poverty in developing countries should be defined as income below \$1 a day per person, measured in purchasing power parity (ppp) dollars of 1985 — drawing on the national experience of India, which along with the United States had pioneered the official measurement of poverty in the 1960s. Research was subsequently devoted to discovering what poverty in many countries was under this standard, how much it had changed over time, and what were the principal determinants of those changes.

Much controversy surrounds the many technical aspects of these comparisons. I will draw heavily on recent work by Surjit Bhalla (2002, 2003), an Indian economist who once worked at the World Bank, who reviews the history and the technical controversies and provides his own comprehensive estimates of poverty, based on the World Bank definition, by region over the period 1950-2000. A key feature of Bhalla's work is that he focuses (appropriately) on people rather than countries. To do this he needs data on the distribution of income or (preferably) consumption within each country, and changes in such distribution over time. He then needs to aggregate these people-oriented data across regions and the world for a number of years, to discover trends in world poverty.

Table 3 sets out poverty rates in what today we call the developing world, as calculated by Bhalla (2002, p.148), by region for the turn of each decade from 1950 to 2000, along with a headcount of the people who live below the poverty line. The poverty line Bhalla uses is \$1.50 a

day in 1993 ppp dollars (= \$547 a year, or roughly the equivalent of \$505 in Maddison's international \$ of 1990), to allow both for inflation that occurred after 1985 and to allow for some undercounting of consumption (or income) of high income families in the national surveys on which everyone relies for information on income distribution.⁵

In Table 3 it can be seen that poverty dropped substantially, even dramatically, over the half century, from 63 percent of the population of the developing world in 1950 to 13 percent in 2000. The drop was particularly significant, 30 percentage points, over the last two decades, the period of so-called globalization. Significant declines occurred in every region except sub-Saharan Africa, and even there a modest decline occurred, although an increase was registered after 1980. Furthermore, the *number* of people living in poverty was roughly halved, from 1223 million to 647 million, despite a more than doubling of world population. Again, the number declined in most regions, except for a modest increase in the Middle East and North Africa, and a dramatic increase of over 300 million in sub-Saharan Africa, where population growth was especially rapid.

The details of Bhalla's work are controversial, focusing particularly on his use of consumption data from each country's national accounts to determine average consumption levels, which are typically higher than those reported in social surveys. Moreover, the proportionate gap seems to have risen over time. Since at least some of this difference can be attributed to presumed under-reporting by relatively wealthy people in the surveys, Bhalla adjusts upward the poverty line from \$1.30 a day in 1993 prices (the equivalent of \$1 a day in 1985 prices) to \$1.50 a day to allow for his reliance on the national accounts.

Debate has focused particularly on India, an important developing country where the data are relatively rich and well-developed. Both the national social survey (S) and the national accounts (NA) have strong supporters, yet there is a significant and growing discrepancy in average per capita consumption between the two, with the S/NA ratio having fallen from 93 percent in 1973 to 56 percent in 1999, or from 71 percent to 56 percent if allowance is made for rebasing and other revisions in the national accounts (Bhalla, 2003, table 4). This is not the place to take a position in this debate, which pertains also to a number of other countries. But if the Survey data are valid, it raises serious questions about the reported growth rates for the Indian economy over the past three to five decades. If mean consumption in the 1990s is as low as the Surveys report, unrealistically low consumption levels several decades earlier are implied if the reported growth rates are accurate. Mean Survey data, corrected for Indian inflation, show a growth of only 0.6 percent a year in per capita expenditure over the period 1973-1999, whereas per capita real consumption from the national accounts grew by 2.6 percent (calculated from data in IFS).

An alternative explanation is that the growth in consumption India experienced accrued overwhelmingly to the rich, who are not adequately reflected in the Survey means. But this would have implications for the distribution of income that are implausible, if not literally impossible. If the top ten percent accounted for 25 percent of total expenditures in 1973, as they reportedly did in 1993 (Sundaram and Tendulkar, 2003, p.333), then accuracy in both the Survey means and the national accounts consumption would imply that the top ten percent accounted for 54 percent of total consumption by 1999.⁶ We can conclude from this calculation that the

Survey significantly under-estimates the growth in average consumption over the last three decades, or that the recorded GDP growth rates are significantly too high, or that the distribution of income in India has become much more unequal than is generally acknowledged, or some combination of all three. Such conundrums in data consistency have (negative) implications for all cross-country work on growth and inequality, and on poverty.⁷

Whatever the detailed resolution of the technical disputes, it seems likely that poverty in developing countries has dropped significantly, especially in the past two decades. Sundaram and Tendulkar (2003a, 2003b, Table 7), strong supporters of the Indian Survey as against the national accounts, nonetheless report a drop in Indian poverty by 8 percentage points between 1983 and 1993, and by a further 5 percentage points between 1993 and 1999. Even more rapid growth has occurred in China 1980-2000, and while it has been uneven, it has been sufficiently widespread to reduce poverty very substantially. Indeed, the drop from 67 percent in 1980 to 6 percent in 2000 shown in Table 3 for East Asia is dominated by China. Given their huge populations and initially high poverty, rapid growth in China and India alone virtually assures a world-wide reduction in poverty, even with widening income distribution in each. To focus on countries rather than people, and on the poorest countries alone, is deeply misleading for what has been happening in the world at large.

A reduction in poverty is generally associated with economic growth, not just in China and India. In fact, it is difficult to find examples of significant reduction in poverty that is not associated with economic growth, and it is difficult to find significant growth that does not reduce poverty (see Dollar-Kraay, 2002a, 2002b).

What is quite separate from the issue of poverty, although remotely related, is the claim that inequality in the world distribution of income has worsened (i.e., inequality has increased) significantly in recent years. It is usually simply assumed that greater inequality is undesirable, and therefore that an increase in inequality should be a cause for concern. Yet it is difficult to imagine economic growth starting from a stationary condition that does not for awhile, perhaps a long time, increase inequality. As noted above, many human activities follow a logistic pattern, which implies an increase in inequality (of whatever), followed by an eventual decline. The circumstances surrounding any increased inequality are all important in evaluating whether it is desirable or undesirable.

Bhalla's work on poverty also permits him to address the issue of inequality, focusing again on people rather than countries. He gets results that sharply contradict the conventional findings, based on countries, of growing world inequality. Using Gini coefficients as a measure of inequality (ranging between zero, perfect equality, and one, extreme inequality), Bhalla (2002, p.178) finds that between 1960 and 1980, when rich countries were growing rapidly, world inequality increased, but between 1980 and 2000 world inequality decreased to below where it was in 1960. This occurred despite an increase in inequality in the industrialized world, as Europe and Japan slowed relative to the United States. If China and India are excluded, inequality was virtually unchanged between 1980 and 2000 in the developing world, but with China and India included, as they should be, inequality declined sharply. This could occur even if, as is usually assumed, income inequality became less equal within China and India.⁸

On a regional basis, inequality was highest in sub-Saharan Africa, and unchanged in

1980-2000, whereas it declined in East Asia, the Middle East (including North Africa), and Latin America, while increasing modestly in South Asia and sharply in Eastern Europe.

An alternative measure of inequality is to compare the median (50th percentile) income in the United States, as the world's richest large country, with median income in the developing world. According to Bhalla's calculations (2002, p.179) that ratio declined almost steadily from 24.1 in 1950 to 11.7 in 2000. In short, the median person in the developing world, while still much poorer than his U.S. counterpart, is nonetheless catching up, having more than halved the (geometric) gap over the half century. A similar result holds if the comparison is made between those at the 20th percentile in the United States and in the developing world. However, the median person in Africa, having been modestly better off than his East Asian counterpart in 1960 in comparison with the median American (a ratio of 22.8 versus 25.6), was far worse off by 2000 (38.3 versus 9.0), showing a deterioration both with respect to the median American and especially with respect to the median east Asian (Bhalla, 2002, p.192).

Capital Inflows

As noted above, Arthur Lewis judged the main requirement for raising growth to be a sharp increase in the rate of capital formation, physical and human. Investment ratios did rise in developing countries, but they crept rather than leapt up, rising from 20.6 percent of GDP in the 1960s to 22.8 percent in the 1970s, 25.6 percent in the 1980s, and 26.3 percent in the 1990s (calculated from IFS: China was added in 1979, Russia in 1994). During the same period of time they declined modestly in the industrialized countries, from 23.7 percent in the 1960s to 20.8

percent in the 1990s.

One of the advantages of engagement with the world economy is being able to draw for investment on savings elsewhere in the world; a country does not have to rely on domestic savings alone. The transfer of real resources to any country can be measured through the current account in its balance of payments. In fact, the current account deficit for developing countries as a group, as defined in the 1980s, exceeded one percent of their GDP (measured in 1990 international \$) only in 1982, a year of world recession, and even approached one percent only in a few other years (e.g., 1978, 1991, 1993), and a few additional years if the large surpluses of OPEC members in those years are excluded. It was well under 0.5 percent in most years. As a share of domestic investment, these percentages must be increased four to five-fold, but still remain remarkably small.

Of course, there were large variations from country to country, and even for the same country over time. Net capital inflows were significant, for instance, for Israel and South Korea in the 1960s and 1970s, and represented 2 to 10 percent of GDP for Costa Rica, Chile, and a number of smaller countries in the 1980s and 1990s, and 0.5 to 2.5 percent of GDP for India. Moreover, by virtue of the international capital market a country could engage in intertemporal reallocation of large foreign earnings in some years.

Bilateral and multilateral aid to developing countries was \$6.7 billion in 1962, as recorded in the first report of the newly formed OECD's Development Assistance Committee (DAC), or \$25.7 billion in 1990 dollars (using the U.S. GDP price deflator), a shade over one percent of the GDP of developing countries in that year. It doubled in real terms to the early

1990s, and then receded by 2001 to only 20 percent above the 1962 level, of course representing a much smaller fraction of developing country GDP (World Bank, GDF 2001, p.87). Foreign assistance was about three times private capital flows (at \$2.2 billion) to developing countries in 1962, but by the 1990s was dwarfed by private capital flows, which exceeded \$160 billion in 1996, the peak year.

The contribution of foreign capital inflows to development is still a source of uncertainty and controversy (some evidence is summarized in Cooper, 2002). Foreign direct investment (FDI) seems to be the most potent in its impact, and even then seems to work best when local education is high. By 2001 FDI to all developing countries exceeded ODA by nearly five times (GEP 2004, p.292).

Foreign aid has been the most visible vehicle for help to developing countries from rich countries over the past four decades. It is therefore worth asking what we can say about the impact of such assistance on economic growth. A World Bank team supervised by Lyn Squire addressed this issue in *Assessing Aid* (1998). The study correctly observes that aid is fungible, in that it may finance a project or activity that the government would have undertaken with its own funds, so the true marginal expenditure from aid need not be the designated expenditure. Only about 35 percent of aid, on average, increased the investment ratio in a study of 56 countries (42 of which were in Africa or Latin America) over the period 1970-1993; none however seemed to finance tax reductions, and some aid is initially targeted on government consumption such as education, agricultural extension, or public health. After controlling for other variables, the study suggested that foreign assistance as a percent of each recipient's GDP had *no* discernable

impact on its economic growth over this period, an appalling result even after allowing for the fact that some aid was not targeted for development. However, aid interacted with economic management (measured as a weighted average of trade openness, inflation, budget surplus, and institutional quality) in such a way that growth in well-managed countries benefited from aid: on average an increase in aid by one percent of GDP increased a well-managed country's growth rate by 0.5 percentage points. And in some well-studied cases foreign assistance was extremely important in launching economic reform and subsequent economic growth (see e.g. Haggard/Cooper/Moon, 1993, on South Korea in the 1960s).

It is understood these days that much, perhaps even most, of the benefits of foreign assistance and FDI arise from the technical and managerial knowledge they convey rather than from the provision of capital as such.

Growth, Development, and Freedom

"Development" was earlier associated with increases in per capita GDP, as a rough proxy for improvements in material well-being. A case can be made that this is a necessary — or at least a strongly facilitating — condition, but not a sufficient one. If we conceive, as Sen (1999) does, of "development" as increasing the capability of all human beings to achieve those things they most value, then development must also cover the ability of citizens to express themselves and to have some voice in the policies that affect them, that is, development involves civil and political liberties as well as improvements in material well-being.

One of the remarkable trends of the past half century was the extension of functioning

democracy to a wider fraction of mankind, including not just northwestern Europe and North America, but Germany and Japan early in the period, Spain and Portugal in the mid-1970s, and by 2000 included eastern Europe, Russia, most of Latin America, much of East, South, and Southeast Asia, and parts of Africa. The major remaining gaps were in the Arab world, central Asia, China, and sub-Saharan Africa (where the situation deteriorated significantly since independence in the 1950s and 1960s). The extension of democracy during the 1980s was what Samuel Huntington called the "third wave," suggesting that the phenomenon is episodic, not linear, and occasionally even involves reversals.

There has been extensive scholarly discussion over the years on the relationship between freedom, of which functioning democracy is a major manifestation, and economic development: whether the latter is a precondition for the former, and whether the former is a serious impediment to the latter. Political scientist Huntington (1991, p.311) is a strong proponent of the first view: "Poverty is a principal and probably the principal obstacle to democratic development. The future of democracy depends on the future of economic development. Obstacles to economic development are obstacles to the expansion of democracy." Barro's empirical analysis (1997, ch. 2) supports Huntington's view. Modern India, with a functioning, indeed raucous, democracy since its beginnings in 1947, of course stands out as a leading exception to this generalization, as do a few Latin American countries, but a generalization does not have to be universal to have some validity.

Has democracy been an impediment to economic growth? In a study of 18 developing countries during the 1970s and 1980s, Little et al.(1993) found no relationship between

economic performance and democracy or the Freedom House ranking on freedom for each country. Helliwell (1994) supports that conclusion on the basis of wider country coverage over a longer period of time. Barro (1997, ch.2) finds a weak curvilinear relationship, with growth depending positively on what he calls an "index of political rights" up to the level achieved by Malaysia and Mexico in 1994, and negatively for higher levels of rights.

While it is true that examples can be found in which authoritarian government seems to facilitate economic reform and subsequent economic growth — South Korea in the 1960s and 1970s comes to mind — it also true that many authoritarian governments have neither the desire nor the capacity to undertake economic reforms leading to higher economic growth.

Democracies are usually more hesitant and less comprehensive in adopting economic reforms, but also steadier in responding to various forms of turbulence in the process.

Lessons Learned from 1950-2000

What conditions are especially conducive to growth, and what conditions are especially detrimental? Geography, institutions, openness, market-orientation, rule of law, government micro-engagement, heavy taxation, corruption, and macroeconomic management have all been put forward as serious explanations for inter-country differences in economic growth. Often the debate has focused on dichotomies, e.g. market versus planning, or inflation versus price stability, whereas reality was full of grays that suggest the coarse dichotomies of public debate offer little practical guidance.

Being "geographically disadvantaged" has been advanced as a reason for poor economic

performance, especially countries that are land-locked, such as Bolivia, Laos, Nepal, Paraguay, and many African countries. But Botswana, far the most rapid grower in sub-Saharan Africa, is also land-locked, as are Austria, Czechoslovakia, Hungary, Switzerland — and indeed Chicago, if the U.S. Midwest were treated as a separate economy. Perhaps being land-locked creates some modest disadvantage — although being on the sea does not ensure good natural ports — but it can be overcome through human agency. Chicago can now entertain ocean-going ships (although not the largest) through the St. Lawrence seaway, which once presented huge natural obstacles (such as Niagara Falls).

Note also that the Dominican Republic and Haiti share an island, a climate, equal access to foreign markets; and in 1950 they had equal per capita income of around \$1050 (1990 international \$). By 1998, in contrast, income in the DR had increased by a factor of three; Haiti's had fallen by 20 percent. Institutions and policies played a major role in the difference.

The best performing economy in Latin America was Puerto Rico, with a growth in per capita income of 3.9 percent a year over 50 years. It started in 1950 with a per capita income somewhat greater than that of many of the smaller Latin American countries, but lower than that of all the larger Spanish-speaking countries. It may be dismissed as being part of the United States. Yet it grew much more rapidly than the United States did. And while it is part of the U.S. currency area and customs zone, it has wide autonomy in framing its local policies, including education and taxation. Its superior performance calls for explanation. Neighboring Cuba, once among the richest countries in Latin America, is now one of the poorest, exceeding only Nicaragua and Haiti. Anti-growth policies governed the country. The American embargo of

1960 was an immediate blow, but it can hardly explain four decades of poor performance, despite Castro's continuing use of it as an excuse, not least because no other country supported the embargo. Pairwise comparisons between East and West Germany, and between North and South Korea, make the same point. Political stability prevailed for decades in both pairs. What differed was the incentives for individual effort and risk-taking, the mainstays of continuing economic growth.

One important dimension of geography is the presence of disease, for agricultural products as well as humans. While small children can be replaced, high child mortality involves a serious opportunity cost to the mothers, and of course any education of the child is lost. Debilitating diseases, representing equilibrium between parasite and host, may be worse than fatal disease from the perspective of economic growth, because of its deleterious effects on productivity. Again, human agency can overcome or greatly mitigate the impact of disease; southern Europe was once malarial, as was Singapore. Smallpox was once endemic in Europe, resulting in high mortality. The Panama Canal could not have been built before learning that yellow fever-bearing mosquitos had to be kept at bay. But the obstacles to be overcome are surely higher in some places than in others.

Hong Kong and Singapore both registered outstanding growth, over 4.5 percent a year for half a century. The relevance of their experience is often dismissed, as mere "city states." But Hong Kong has a population greater than that of many European countries, such as Denmark, whose experience is not casually dismissed; and Hong Kong's GDP registers at 22nd in the world, with the vast majority of economies being far smaller. Their main differentiating

feature is that agriculture (apart from fishing) was not a dominant part of either economy even when they were poor. There are however other potential "city states," such as Djibouti, that would be much better off if they had performed only half as well. And while the transformation of agriculture is an important part of development, it is not the only important part; lessons can be learned even from city states.

It has become conventional wisdom that openness — that is, some form of serious engagement with the world economy — is a significant contributor to growth. Barro (1997) could not find such a relationship for the limited measures he used, and Rodrik and Rodriguez (2000) have criticized on methodological grounds the several studies usually cited in support of this conclusion, including Sachs and Warner (1995). Cooper (2002) argues that there is little theoretical ground for expecting a priori that openness would contribute to growth, as opposed to a once-for-all increase in income, but that in the actual post-1950 world it would be implausible if continuing trade liberalization, in particular, had not contributed to growth. Warner (2003), responding to the methodological criticisms of Rodrik and Rodriguez, has demonstrated persuasively that relative openness, measured in a variety of different ways and formulated with a variety of specifications, was strongly conducive to growth, at least for the 61-86 countries he studied over the period 1970-1990. Put another way, those developing countries (with per capita income under \$5000) that remained relatively closed grew far more slowly, on average, than those that engaged more actively with the world economy. GDP growth in the latter group averaged 4.8 percent a year, versus only 0.8 percent in the former group. There were no countries in the open group that experienced negative growth, in contrast to the relatively closed

economies. After controlling for many other variables, Warner registers the judgment that being "open" rather than "closed" is worth 3-4 percentage points of growth in GDP — a tremendous impact.

Even if one accepts this general dichotomous result, each country is different and the practical details are all important.

Remarkably many small economies, with populations less than one million persons, are high income economies ($\text{GDP/P} > \$9266$ in 2001). True, many are dependencies, albeit locally autonomous ones, of rich countries — Bermuda, Faeroe Islands, French Polynesia, Greenland, Guam, Northern Marianas. Some are independent but contiguous to larger rich countries — Andorra, Luxembourg, San Marino, arguably Bahamas. But many meet neither of these conditions — Barbados, Brunei, Cyprus, Iceland, Macao, Malta. These economies are not usually included in analyses of economic performance, as being beneath notice. But why? While some are "dependencies," they have a high degree of local autonomy in setting economic policies (e.g. taxation) and local laws that are relevant to commerce and finance. Dependency these days usually in practice refers to defense and foreign policy.

A few, such as Iceland and Bermuda, were relatively well off fifty years ago, but most were poor. They have become rich. Many had a colonial past, usually but not always British. They inherited or developed a legal framework, institutions, and policies that have helped them achieve relative wealth. All are open and many have developed close economic relations with larger rich countries.

Not all small countries are rich. Among the low income countries ($\text{GDP/P} < \$745$) are

Sao Tome & Principe (\$280), Comoros (\$380), Solomon Islands (\$580), Bhutan (\$640), and Equatorial Guinea (\$700) — all countries in poor neighborhoods. All except Bhutan and Solomon Islands are in Africa. But these very poor small economies are greatly outnumbered by the rich ones. Small countries tend to maintain fixed exchange rates or even to use a larger country's currency and impose import tariffs primarily for revenue, not to protect local industry. Only Brunei (oil) and Iceland (fish) are rich in resources, although Sao Tome and Equatorial Guinea seem to be well-endowed with offshore oil, soon to be developed. In short, many small economies have managed to grow significantly despite their small scale, or perhaps because they were too small to entertain pretensions of economic independence.

Inflation is said to be inimical to economic growth (e.g. Fischer, 2003, ch.10, esp. p.336; also Barro, 1997, ch.3). That is shown by much cross-country empirical analysis, and at least for high rates of inflation poses no mystery: those are usually cases in which the budget has gotten out of control and inflation is the residual equilibrator; high inflation is also closely associated with highly variable inflation, rendering forward-looking financial planning — a key and necessary feature of all modern economies — practically impossible.

But it does not follow from these correct observations, as is often assumed, that moderate and controlled inflation, e.g. in the low double digits, is also inimical to growth. For a country without a well-developed financial market, inflation may in fact be less distorting than many other taxes the government might impose to generate needed revenues, including high taxes on imports, and the "inflation tax" can reach parts of the population that are not otherwise reachable by the tax authorities. Whether this is good or bad for growth of course depends inter alia on

what is done with the revenue. South Korea's annual inflation rate averaged 14 percent during its take-off period 1966-1979, for instance. It would require much higher confidence in one's theories than I have to argue that Korea would have grown even more rapidly had it forced its inflation rate into low single digits, as seems to have become the accepted norm, even for developing countries, in official financial circles.⁹

Most analyses of growth, as here, have been based on examination of aggregate economic statistics and their possible determinants. McKinsey Global Institute since 1990 undertook a series of "bottom up" industry studies in selected developing countries — mainly Brazil, India, Korea, and Russia — as well as developed countries, focusing on the detailed obstacles to achieving best practice productivity in the use of labor and capital, recognizing that best economic practice will be sensitive to relative factor prices. These studies provide the basis for Lewis' (2003) unsurprising finding that there is no single impediment to adoption of best practice, enhancing productivity and hence living standards; rather a host of often-interacting obstacles is found. He argues, however, that serious competition in domestic markets is usually a necessary condition for adoption of improved techniques, and that serious domestic competition is unlikely occur without a national mindset that accords high value to consumers as opposed to producers. It is also unlikely to occur without significant engagement with the world economy, where best practice is typically generated and where it is constantly changing, both with regard to cost and price and with regard to product quality. He also argues that economically intrusive government is all-but-inevitably captured by special (producer) interests and hence is typically a serious impediment to competition, hence advancing productivity.

What if....

Many events occurred during the past half century, or did not occur but arguably should have occurred, which have been claimed to impede economic development in poor countries. This field is a vast one, but a few such counterfactuals can be briefly explored, necessarily speculatively.

1) Suppose access to markets of rich countries had been easier earlier, especially in agriculture and apparel, as has been urged for the upcoming Doha Round of trade negotiations; how much difference might it have made to overall economic performance?

2) Suppose rich countries had actually met the UN target of 0.7 percent of donor GDP for foreign aid, set in the 1960s; how much difference would it have made to economic growth?

3) Suppose private capital flows had been steadier; how much difference would it have made?

4) Suppose OPEC had not quadrupled oil prices in 1974, causing the deep 1975 recession and subsequent build-up of sovereign debt?

1) Import restrictions in rich countries have recently been portrayed as serious obstacles to the development of poor countries, denying them both higher income and growing markets. While it is difficult to defend high import restrictions in rich countries, the main impact of these restrictions probably falls on the consumers of the rich countries rather than on developing countries, with a few possible exceptions. It can even be argued that the restrictions in the textile

and apparel sector, envisioned in the 1974 Multifiber Agreement and invoked by the rich countries, mainly the EU and the U.S.A, contributed significantly to development. The reason is straight-forward: as each developing country became successful in exporting textiles or (mainly) apparel to rich markets, further growth from the successful country in the successful products was restrained through bilateral agreement. While growth was permitted over time, the rate of growth was capped. This both induced the restrained countries to move into other, unrestrained products; and created an opportunity for other developing countries to market their comparable products successfully, even though they might not have been competitive with products from the countries under restraint. Thus we saw apparel exports migrate from successful economies such as Hong Kong and Korea to southeast Asia, then to central America and South Asia. Mauritius owes its successful apparel industry directly to restraints imposed on exports from Hong Kong, inducing producers to find a new, attractive location. Any shopper in the United States, where the origin of imports must be labeled, will be astonished at the large number of countries that export apparel to the United States. This would have been unlikely had it not been for the MFA — the process of diffusion would have taken many more years, maybe decades.

When it comes to agricultural products, an analogous situation can be found.¹⁰ The most competitive countries in products the most heavily restricted are often not the poorest countries. Sugar probably holds the record as the most protected product in the EU and the U.S.A (rice in Japan). Yet the most competitive producers of sugar on any scale are probably Australia and Brazil, a rich and middle income country; for rice it would be the United States, Thailand, and perhaps Vietnam — a rich, middle-income, and poor country. Removal of U.S. and European

subsidies to cotton would undoubtedly benefit some Australian farmers but also some poor farmers in Africa — if their governments allowed the higher prices to reach them, something we have not observed in products such as cocoa and coffee. So the practical issue is whether the governments would successfully devote the proceeds of higher export earnings toward development, something that might happen, but cannot be taken for granted. Undistorted trade in cotton might actually hurt the apparel industries of many developing countries, since world cotton prices would presumably be higher.

2) If the 0.7 percent UN target for foreign aid (to which the U.S. government never subscribed) obtained, total foreign assistance in 2001 would be on the order of \$180 billion, compared with the \$38 billion of ODA actually recorded (for 2001). Vastly greater official resources would have been available for development. In view of the growth that actually occurred after the 1960s, transforming some countries from poor to middle income, this aid would have been available for an ever shortening list of countries (augmented, however, by the former communist countries during the 1990s).

We commented above on the apparent ineffectiveness of foreign aid: on average it is not associated with higher growth at all. In well-managed countries, however, foreign assistance evidently increased the rate of growth. Thus the relevant question is whether foreign aid on nearly five times the actual scale would or could have been given mainly to well-managed countries. Or could the prospect of aid on a vastly greater scale have converted some poorly managed countries into well-managed ones? Or, on the contrary, would it have induced rent-seeking within many countries on an even larger scale than actually occurred?¹¹

3) Already by the mid-1970s private capital was moving to developing countries on a scale comparable to ODA, and in the 1990s came to far overshadow ODA, first in the form of bank loans to governments, then as bond purchases and (in emerging markets) purchases of private equity. This generally rising trend was punctuated with severe reversals, first in the early 1980s, then in the late 1990s. It would have been less disruptive if the trend rise had been much smoother. How could that have been brought about, given that private investors are broadly subject to similar incentives and information during each interval? If both borrowers and lenders had been more prudent in the late 1970s and in the early 1990s, the debt crises of the early 1980s and the mid- to late 1990s might have been avoided, and with that the sharp reduction in output, followed (especially Latin America) by a prolonged period of relative stagnation. Governments of capital-importing countries could have restrained their borrowing, and arguably could have limited private capital inflows through controls or other inhibitions on the inflows of capital. But that would have presupposed both a higher degree of fiscal discipline and a willingness to buck sentiment in financial circles of the rich countries which few developing countries have. However, there is little doubt that financial crises, made possible or even inevitable by over-indulgence in imports of capital, set back economic growth, relatively briefly in some countries, but for a prolonged period in others.

4) In December 1973 OPEC ministers, hosted in Tehran by the Shah of Iran, decided to increase the posted price of crude — most oil at that time sold on contract at posted prices — by nearly a factor of four, starting in January 1974. It was probably the largest financial shock the world economy has ever experienced. It led directly to "stagflation" — economic

contraction combined with general increases in prices — in the rich countries, and to the recession of 1974-75, the deepest in the post-1945 period. It also led to extensive build-up of debt, as oil-exporting countries initially "recycled" their higher earnings into the world banking system, and many oil-importers borrowed to pay their higher import bills. Ironically, several oil-exporting countries also borrowed heavily, excessively it turned out, against their new oil wealth — Indonesia in 1974-75, Mexico and Nigeria in 1980-82. The depth of the recession and the extensive borrowing, hence the debt crisis of the early 1980s, arguably could have been avoided if oil prices had not been increased so steeply and so abruptly. World economic growth, including in developing countries (despite increased foreign aid from some OPEC members), was undoubtedly set back by this event.

The second oil shock of 1979-1980 was more complicated in origin, stemming from the revolution in Iran, and some OPEC ministers actually tried to restrain the increase in oil prices. However, the Iranian revolution may itself have had its origin in the large oil price increase of 1974, which was prompted by the Shah in order to generate the revenue he desired to modernize Iran — to make it, on his explicit conception, the Germany of continental Asia. The attempt at rapid modernization antagonized the mullahs and disoriented many Iranians, creating the conditions for a conservative religious backlash. Human events are complicated, and unintended consequences often thwart ambitious plans.

Conclusion

Performance in the period 1950-2000 can only be described as fantastic in terms of the

perspective of 1950, in the literal sense that if someone had forecast what actually happened he would have been dismissed by contemporaries as living in a world of fantasy. One would not get this impression from recent discussion, which (correctly) focuses on unfinished business, but in so doing erroneously gives the impression that actual performance has been poor. Humans are chronically dissatisfied; expectations rise with success. And some individuals and institutions have a stake in down-playing good performance. There is, to be sure, much work to be done, since too many people still live in poverty. But it is also necessary to note success when there has been success, to avoid drawing erroneous conclusions. The post-1945 international economic system has in general served mankind well.

Table 1**Some Indicators of the Human Condition**

	1960	1980	2000
Infant Mortality ^a	140	80	52
Life Expectancy ^b	43	59	64
Illiteracy ^c	53	43	28

^a Deaths per 1000 births^b Years from birth^c Percent of adults**Source: World Development Indicators****Table 2****Annual Increase in Per Capita GDP (percent)**

Region	1950-60	1960-70	1970-80	1980-90	1990-2001	1950-2001
U.S.A, Canada, Australia	1.7	2.9	2.1	2.2	2	2.2
Western Europe	4.2	4	2.5	1.9	1.7	2.8
Eastern Europe	3.8	3.4	3	-0.6	0.7	2
Former U.S.S.R	3.3	3.5	1.5	0.7	-3.5	1
Latin America	2.2	2.4	3	-0.7	1.3	1.6
Asia	3.8	4.1	2.9	3.2	3.1	3.4
Africa	1.9	2.5	1.2	-0.7	0.2	1
World	2.8	3	1.9	1.3	1.5	2.1

Source: calculated from Maddison, 2001, p.330; and Maddison, 2002, p.39

Table 3 Poverty in the World, 1950-2000

Region and Measure	Poverty line (PPP, \$1.50 a day)					
	1950	1960	1970	1980	1990	2000
Head count ratio (percent)						
East Asia	86.6	77.5	71.1	67.2	31.3	6.0
South Asia	44.3	37.2	32.1	34.4	18.5	7.8
Sub-Saharan Africa	59.3	53.2	52.2	49.9	55.3	54.8
Middle East and North Africa	26.3	24.3	13.4	4.3	5.2	7.8
Latin America	22.0	16.0	9.4	3.6	5.3	5.2
Eastern Europe	17.8	9.2	3.3	1.7	0	0
Developing world	63.2	52.5	46.4	43.5	25.4	13.1
Number of poor people (millions)						
East Asia	830	729	833	955	521	114
South Asia	208	209	229	310	207	105
Sub-Saharan Africa	104	118	150	188	279	362
Middle East and North Africa	27	32	23	10	16	29
Latin America	36	35	27	13	23	27
Eastern Europe	49	29	12	7	0	0
Developing world	1223	1131	1262	1479	1056	647

Source: Bhalla (2002) p. 148

Endnotes

1. Interestingly, W&W project a *decline* in oil and gas consumption from 0.875 to 0.4 btce, presumably reflecting exhaustion of proven reserves.
2. Kahn and Wiener predicted Africa would do relatively badly, but were more optimistic about the prospects for Latin America. Bell, p. 461.
3. The Geary-Khamis approach used by Maddison is designed to achieve transitivity and additivity, by choosing as weights internationally standardized prices for selected goods and services. For a discussion, see Maddison, 1995, p.163. Maddison judges China's official figures for growth to be too high for a variety of reasons, including under-estimation of inflation and under-estimation of GDP in the earlier years. His revisions place China's 1952-1995 GDP growth at 5.6 percent a year, compared with 6.7 percent on official figures. During the post-1978 transformation period the difference exceeded two percentage points. See Maddison (1998), Tables C.8 and C.10.
4. In recent years, "world economic growth" calculated with national GDP at ppp weights has been about one percent higher than world economic growth at market exchange rates rates, e.g. 3.0 and 1.9 percent respectively in 2002. See *Global Economic Prospects 2004*, p.3. The latter concept is appropriate for macroeconomic analysis, measuring the change in effective demand and supply, whereas the former concept is appropriate as a rough indicator of improvement in material well-being in the world.
5. For reasons unexplained, the World Bank adjusted the dollar/day standard to \$1.08 a day in 1993 prices (see WDR 2003, p.246); but this was well below inflation in any country; the us GDP deflator rose by 27 percent.
6. Even if income distribution had been perfectly equal in 1973, which it was not, the income of the top decile would have been significantly above 25 percent by 1993 if the two growth rates were both accurate.
7. In 2001 Ethiopia was the world's poorest country, according to WDR, with a per capita GDI of \$100. At ppp, its per capita income was \$710, with five countries being poorer — Sierra Leone the lowest at \$480. But only 31.3 percent of Ethiopians were recorded as being below the international poverty line, with a poverty gap, reflecting the depth of poverty, amounting to 8 percent. India, with a per capita income of \$460, over four times greater (\$2450 in ppp terms) recorded 44.2 percent of its population below the international poverty line, with a deeper poverty gap of 12 percent. (Comparable relationships hold if the poverty line is taken at \$2 a day.) This difference could occur only if India had a substantially less equal distribution of income than did Ethiopia. But the expenditure distribution Gini coefficient recorded for Ethiopia was 40.0, greater (i.e. further from equality) than that recorded for India, 37.8 percent, contrary to what is required to reconcile the other figures.
8. Indeed, it is logically possible that inequality could increase in *every* country, and yet still decline on a global basis, provided poor countries are growing more rapidly than rich ones.
9. Barro (1997, p.98) finds no statistically significant relationship between inflation and growth for rates of inflation below 15 percent.

10. An excellent discussion of agriculture in the Doha Round can be found in *Global Economic Prospects 2004*, ch. 3.

11. Oil-exporting countries that experienced large financial windfalls from the two large oil price increases of the 1970s typically spent their increased revenues poorly; they encouraged more intense rent-seeking rather than productive entrepreneurial activity, and are not reflected in higher growth rates despite the potential. See Little et al., 1993, ch.10.

References

Barro, Robert, 1997, Determinants of Economic Growth, Cambridge, MA: MIT Press.

Bates, Robert, and Anne O. Krueger, 1993, eds., The Politics of Economic Policy Reform, Oxford: Basil Blackwell.

Bell, Daniel, 1999 (originally 1973), The Coming of the Post-Industrial Society, New York: Basic Books.

Bhalla, Surjit S., 2002, Imagine There's No Country: Poverty, Inequality, and Growth in the Era of Globalization, Washington: International Institute of Economics.

Bhalla, Surjit S., 2003, "Crying Wolf on Poverty: or How the Millennium Development Goal for Poverty has already been reached," processed.

Braga de Macedo, Jorge, Colm Foy, and Charles P. Oman, 2002, Development is Back, Paris: OECD Development Centre.

Clark, Colin, 1940 (revised 1951), The Conditions of Economic Progress, London: Macmillan.

Clark, Colin, 1942, The Economics of 1960, London: Macmillan.

Cooper, Richard N., 2002, "Growth and Inequality: the Role of Foreign Trade and Investment," Annual World Bank Conference on Development Economics 2001/2002, Washington: World Bank, 2002.

Cooper, Richard N., 1975, "Resource Needs Revisited," Brookings Papers on Economic Activity, No.1, pp.238-245.

Dollar, David, and Aart Kraay, 2002a, "Growth is Good for the Poor," Journal of Economic Growth, 7(September),195-225.

Dollar, David, and Aart Kraay, 2002b, "Spreading the Wealth," Foreign Affairs, 81 (January/February 2002), 120-133.

Dollar, David, Lant Pritchett, and others, 1998, Assessing Aid: What Works, What Doesn't, and Why. New York: Oxford University Press for the World Bank.

Fischer, Stanley, 2004, IMF Essays from a Time of Crisis, Cambridge, MA: MIT Press.

Haggard, Stephan, Richard N. Cooper, and Chung-in Moon, 1993, "Policy Reform in Korea," in Bates and Krueger.

Helliwell, John F., 1994, "Empirical Linkages between Democracy and Economic Growth," British Journal of Political Science, 24 (August), 225-248.

Huntington, Samuel, 1991, The Third Wave: Democratization in the Late Twentieth Century, Norman, OK: University of Oklahoma Press.

International Monetary Fund, International Financial Statistics, various years.

Kahn, Herman, and Anthony Wiener, 1967, The Year 2000, New York:

Kapur, Devesh, John P. Lewis, and Richard Webb, 1997, The World Bank: Its First Half Century, Washington: Brookings Institution Press.

Kuznets, Simon, 1966, Modern Economic Growth, New Haven: Yale University Press.

Lewis, W. Arthur, 1955, The Theory of Economic Growth, Homewood, IL: Richard D. Irwin.

Lewis, William W., 2004, The Power of Productivity: Wealth, Poverty, and the Threat to Global Stability. Chicago, IL: University of Chicago Press.

Little, I.M.D., Richard N. Cooper, W. Max Corden, and Sarath Rajapatirana, 1993, Boom, Crisis, and Adjustment: Macroeconomic Management in Developing Countries, New York: Oxford University Press.

Maddison, Angus, 2002, "The West and the Rest in the International Economic Order," in Braga de Macedo et al.

Maddison, Angus, 2001, The World Economy: A Millennial Perspective, Paris: OECD Development Centre.

Maddison, Angus, 1998, Chinese Economic Performance in the Long Run, Paris: OECD Development Centre.

Maddison, Angus, 1995, Monitoring the World Economy 1820-1992, Paris: OECD Development Centre.

President's Materials Policy Commission (Paley Commission), Resources for Freedom, Washington: Government Printing Office, 1952.

Ren, Ruoen, 1997, China's Economic Performance in International Perspective, Paris: OECD Development Centre.

Reynolds, Lloyd G., 1985, Economic Growth in the Third World, 1850-1980, New Haven: Yale University Press.

Rodrik, Dani, and Francisco Rodriguez, 2000, "Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence," in Ben Bernanke and Kenneth S. Rogoff, eds., Macroeconomics Annual 2000, Cambridge, MA: MIT Press for NBER, pp.261-325.

Sachs, Jeffrey D., and Andrew M. Warner, 1995, "Economic Reform and the Process of Global Integration," Brookings Papers on Economic Activity, No.1, pp.1-118.

Sen, Amartya, 1999, Development As Freedom, New York: Alfred A. Knopf.

Smil, Vaclav, 2003, Energy at the Crossroads: Global Perspectives and Uncertainties, Cambridge, MA: MIT Press.

Sundaram, K., and Suresh D. Tendulkar, 2003a, "NAS-NSS Estimates of Private Consumption for Poverty Estimation," Economic and Political Weekly, xxxviii (January 25, 2003), 376-384.

--- 2003b, "Poverty in India in the 1990s," Economic and Political Weekly, xxxviii (Nov. 15, 2003), 4865-4872.

Thomas, Vinod, et al., 2000, The Quality of Growth, Oxford University Press.

United Nations, 1963, The Growth of World Industry, 1938-1961: International Analysis and Tables, New York.

Warner, Andrew M., 2003, "Once More into the Breach: Economic Growth and Global Integration," Cambridge, processed.

World Bank, 1998, Assessing Aid: What Works, What Doesn't, and Why, New York: Oxford University Press for the World Bank.

World Bank, World Development Report, various years.

World Bank, Global Development Finance, various years.

World Bank, Global Economic Prospects, various years.

Woytinsky, W.S., and E.S. Woytinsky. 1953, World Population and Production, New York: Twentieth Century Fund.